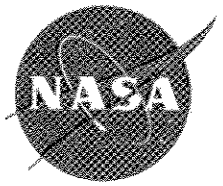
National Aeronautics and Space Administration



Enterprise Service Desk and Enterprise Service Request System

Requirements Document

February 24, 2010

Deborah Diaz
I3P Program Manager

3/5/10
Date

John D. Sprague
End-User Services Project Executive

Mar. 1, 2010
Date

Terry D. Jackson
Deputy Director, B&A

Feb. 24, 2010
Date

Paul J. Rydeen
Project Manager

Feb. 24, 2010
Date

Change Log

Revision No.	Description	Revised By	Revision Date	Filename
1	Basic.	J. Sprague	8/17/09	ESD Requirements Document.doc
2	Added Level 3 Requirements and Appendices; additional edits throughout.	P. Rydeen	9/2/09	ESD ESRS Requirements Document v1.0.docx
3	Minor edits.	J. Sprague	9/3/09	ESD ESRS Requirements Document v1.1.docx
4	Edits due to feedback.	J. Sprague/P. Rydeen	9/4/09	ESD ESRS Requirements Document v1.4.docx
5	Added Level 4 requirements and Appendix B.	T. Jackson/P. Rydeen	9/11/09	ESD ESRS Requirements Document v2.1.docx
6	Level 4 requirements for section 5, Appendix A, minor edits.	P. Rydeen	9/14/09	ESD ESRS Requirements Document v2.2.docx
7	Added requirement 5.6, other minor edits.	P. Rydeen	9/16/09	ESD ESRS Requirements Document v2.3.docx
8	In response to ITMB, PE, PDT, and Center review comments; added cover sheet.	P. Rydeen	10/6/09	ESD ESRS Requirements Document v2.4.docx
9	PDR Follow-up.	P. Rydeen	11/2/09	ESD ESRS Requirements Document v2.5.docx
10	Baseline document for KDP C.	P. Rydeen	1/22/10	ESD ESRS Requirements Document v2.6.docx
11	Per Jackie Gill's review.	P. Rydeen	2/1/10	ESD ESRS Requirements Document v2.7.docx
12	Per Jackie Gill's review.	P. Rydeen	2/24/10	ESD ESRS Requirements Document v2.8.docx

ENTERPRISE SERVICE DESK / ENTERPRISE SERVICE REQUEST SYSTEM REQUIREMENTS DOCUMENT

Table of Contents

1.0 SCOPE

1.1 Project Overview

The Enterprise Service Desk (ESD) is a foundational component of NASA's IT Infrastructure Integration Program's (I3P) strategy for delivery of core IT infrastructure services. The ESD will provide Tier 0 and Tier 1 support for a multiple set of services to be provided to NASA through the implementation of five Agency Office of the Chief Information Officer (OCIO) IT services contracts. These I3P support contracts are sponsored out of the Architecture and Infrastructure Division (A&I) of the NASA OCIO.

The ESD will be managed by the NASA Shared Services Center (NSSC). The Service Provider (SP) will provide technical support services under the contract management of the NSSC. Tier 2 services will be provided by the I3P Contractors. The I3P contracts are identified as Agency Consolidated End User Services (ACES), NASA Integrated Communications Services (NICS), NASA Enterprise Data Center (NEDC), Enterprise Applications Service Technologies (EAST) and Web Enterprise Service Technologies (WEST).

The ESD strategy is to utilize to the greatest extent possible a Commercial Off -The-Shelf (COTS) industry-standard set of software tools for managing workflow and providing service performance metrics monitoring and reporting capabilities to the NASA IT organization. The selected package is the Information Technology Service Management (ITSM) suite of software modules commonly known as Remedy. The targeted version for deployment within the ESD is Remedy 7.5. An additional module providing Service Request Management functions will be developed and released as the NASA Enterprise Service Request System (ESRS). The Action Request System (ARS) is the ticketing component of Remedy. Atrium is the Configuration Management Database (CMDB) component of Remedy.

The ITSM software tools are designed to be aligned with the Information Technology Infrastructure Library (ITIL) framework. ITIL is a framework for IT Management structured around a set of industry best known practices for IT processes and procedures. NASA has selected and is implementing the ITIL v3 framework in the I3P environment.

The ESD will be implemented in three phases:

- **Phase 1:**
  - Consolidate, establish, and provide Tier 1 service desk functions currently performed by the Outsourcing Desktop Initiative for NASA (ODIN) and NASA Information Systems Center (NISC) help desks as these contracts end and/or are replaced by the I3P contracts.
  - Establish a Tier 0 Self-Service web service for end user status inquiries, system status, FAQs, and provide access to a knowledge database for known customer Incidents, Problem resolutions, and workarounds.
  - Provide the OCIO A&I Service Integration Management (SIM) office performance monitoring and management activities for the ESD related to Incident management, Problem management, and change requests, ESD

Service Level Agreement (SLA) management, SLA analysis and reporting from the ESD Remedy system, CMDB, configuration management support and service continuity management.
    - Establish a core ordering capability for I3P services defined in the Enterprise Service Catalog (ESC).
- **Phase 2:** (expected as center contracts end throughout FY12)
    - Implement ESD capabilities to transition Center help desk functions to the NSSC as Centers transition from local Center IT contracts to the agency-wide I3P contracts.
    - Provide support for Centers to utilize the ESRS for Center IT services in addition to Agency I3P services.
- **Phase 3:** (expected FY12 and beyond)
    - Add ESD/ESRS support for non-I3P services (e.g. Center facilities services) and/or non-Center services such as those provided by Headquarters (HQ), the NASA Enterprise Applications Competency Center (NEACC), etc.

1.2 System Overview

The system is based on an ITSM-aligned service philosophy, where the primary focus is the end-user/customer's perspective of the services provided by the OCIO infrastructure support organizations. To achieve the ITSM vision, NASA is employing an ITIL-aligned process framework. This standard framework will allow consistent and effective operations between disparate organizations and providers by defining a common set of operating parameters that all participating parties must use. The ESD Remedy system with web interfaces will provide the primary customer interface for I3P service requests, Incident reporting, and I3P IT infrastructure status reporting.

As previously noted a common ITSM tool has been selected – Remedy. This tool, widely used across the Agency for Help Desk support, meets NASA's I3P ITSM requirements. Remedy provides an ITIL-aligned integrated Incident, Problem, and request management solution. The NSSC's current Remedy implementation is being expanded to also support the service request requirements for customers ordering I3P services and will be upgraded to Remedy 7.5.

To support voice communications, the Enterprise Service Desk will leverage the existing CISCO VOIP and IPCC capabilities. Users will be provided with a toll-free call-in capability and the necessary telecommunications infrastructure will be implemented to support the estimated call volume identified in this document.

The Remedy ITSM suite of products for the Incident Management (IMS) system includes:

- Remedy Action Request System (ARS) for ticketing
- Remedy Service Request Module (SRM) for the ESRS
- Remedy Atrium Configuration Management Database (CMDB)
- Remedy Knowledge Management
- Remedy Dashboard & Analytics
- Centergy/CISCO IPCC for call management statistics

Additional software includes:

- Inquisite for survey support
- Centergy/CISCO IPCC for call management statistics
- A capacity management application
- A workforce management application

1.3 System Scope

It is estimated that the I3P environment will initially support 48,000 customers located on-site and near-site to NASA centers and facilities.

- 17,500 Civil Servant Employees
- 30,500 on-site/near site Contractors

The NSSC will design and implement an ESD that will support 48,000 customers at inception. Additional customers will be taken on as Center help desks transition from local contracts to the ESD.

From an IT support environment perspective the following elements have been identified. All numbers are estimated.

- 3,700 IT Employees
  - 700 Civil Servant Employees
  - 3,000 Contractors
- 4,500 Applications
- 8,000 Web Sites
  - 2,000 Public-Facing
- 48,000 Users Supported (estimated)
- 80,000 Desktops/Laptops in NASA
  - 42,000 currently supported by the Outsourcing Desktop Initiative for NASA (ODIN) contract
  - 38,000 supported by non-ODIN Center/Mission Directorate contracts
- 15,000 Servers in 75 Data Centers
- 3 Wide Area Networks
- 14 Center-specific Local Area Networks
- 200 Connections to Universities and Partners
- 8,000 mobile computing devices (PDAs, BlackBerries, etc.)
- 57,000 E-mail Accounts
- 530,000 E-mail Messages Delivered Per Day

For those services within the I3P scope, the following ESD Tier-level responsibilities are defined:

- Tier 0: Self-service support using Knowledge Base (KB), FAQs, etc, provided by I3P contractors and gained by the SP's experience.

- Tier 1: Telephone and e-mail communications, as well as self-entry via the Tier 0 site. Primary focus is to return the customer to production status. Secondary is to collect information for Incident Reporting (support provided via non-dispatched technicians).

- Tier 2: Remote control assistance (a technician provides assistance remotely), desk-side assistance (a technician is dispatched to the customer's work site, e.g., blue screen, printer jam, network issues, or software or hardware issues) and computer lab support.

- Tier 3: Specialized technical support (behind the scenes services), usually by a vendor.

Tier 0 and Tier 1 support for the I3P contracts and for the Enterprise Service Request System (ESRS) will be provided by the ESD. The ESD will additionally provide Service Integration Management support to the OCIO A&I SIM office through the reporting capabilities of the Remedy system and customer surveys. This includes data for Tiers 0 through 2 for, including current data as well as historical records.

1.4 Assumptions and Constraints

- The Enterprise Service Desk will leverage existing Agency assets and capabilities already established at the NSSC and agency-wide, and with as-yet unidentified systems to be determined after the five I3P contracts are awarded.
- The Enterprise Service Desk shall be implemented in phases. Initially the ESD will replace the Tier 1 services/functions being provided by the current ODIN and NISC help desks. In the future, other Center-specific help desk functions will be integrated into the Enterprise Service Desk.
- The Enterprise Service Desk shall minimize disruption to end-user services during the transition from current Help Desks to the ESD.
- The Enterprise Service Desk initially shall provide Tier 0/1 services for specific services being offered in the NASA Enterprise Service Catalog, and supported under the ACES, NICS, NEDC, EAST and WEST NASA OCIO Agency contracts.
- The user community is identified as those NASA employees and NASA support contractors utilizing I3P services.
- All Incidents shall route through the Enterprise Service Desk and its service management tool, the Remedy ITSM system.
- The official system of record for all ESD and I3P services is the ESD Remedy ITSM system.
- All Incidents, Problems, change, and service requests to the ESD and I3P contractors shall require a Remedy ITSM ticket be created and updated with all relevant data from creation to closure of the request.
- The ESD will enable and support automatic routing of trouble / request tickets via the Remedy ITSM system and the ESRS module.
- Constraints are conditions outside the control of the project that limit the design alternatives. The following are examples of constraints:
  - The Enterprise Service Desk shall adhere to all NASA IT policies.
  - The Enterprise Service Desk shall utilize the NSSC's SP for Tier 2 support of its own internal systems located at the NASA Shared Services Center. As the I3P Service contracts are awarded and the new I3P vendors are transitioned into the NASA operational environment to provide services, the NSSC's SP shall establish and implement transition plans from their existing service provider(s) to the I3P contractor's respective service offerings.

1.5 References

REFERENCES	DOCUMENT TITLE	DOCUMENT NUMBER
1.	ESD/ESRS Concept of Operations (CONOPS)	v5.7 dated 23 Sep 2009
2.	ESD/ESRS Formulation Authorization Document (FAD)	Final version signed 17 Jul 2009.
3.	ESD/ESRS Project Plan	v1.13 dated 23 Feb 2010
4.	ESD/ESRS Interface Definition Specification (IDS)	v2.0 dated 7 Oct 2009
5.	NEAR Interface Definition Specification (IDS)	v08 dated 10 Jul 2009
6.	NASA ITIL v3 Functional Roles and RACI Model for I3Pc	v1.0 dated 3 Sep 2009

2.0 REQUIREMENTS

Requirements are defined using the following structure. This version of the document carries requirements out to level 4.

- ✓ **Level 1 (x.) – *Agency Requirements.* Guiding principles.**
- ✓ **Level 2 (x.x) – *Functional Requirements.* Critical needs of stakeholders.**
- ✓ **Level 3 (x.x.x) – *High-Level Requirements.* Processes and features.**
- ✓ **Level 4 (x.x.x.x) – *Sub-Process Requirements.* Functional and technical requirements.**
- Level 5 (x.x.x.x.x) – *Use-Case Requirements.* Individual system activities or information delivery components.
- Level 6 (x.x.x.x.x.x) – *System Requirement Specifications.* Use-case details or functional specifications and solutions.

Completion of all Level 6 requirements will be documented in a verification matrix, to be presented at the Operational Readiness Review (ORR).

2.1 Level 4 Requirements

1. Provide a Tier 1 Enterprise Service Desk for I3P Services.

1.1. Provide Systems Support Management.

1.1.1. Provide Operations Management and Staffing.

1.1.1.1. The ESD shall provide a staff that is trained and knowledgeable on the Remedy 7.5 Knowledge Management and Help Desk operations processes.

1.1.1.2. The ESD shall provide staffing for systems management to support all servers, communications, and software needed to support 24x7 availability as per the SLIs stated in Appendix B of this document.

1.1.1.3. The ESD shall ensure staffing is in place for a 24x7 capability for Incident Management and I3P infrastructure status/notice capabilities beginning Feb. 1, 2011 (or as updated).

1.1.1.4. The ESD shall provide staffing for the customer go-live date (Feb. 1, 2011 or as updated) to support 24x7 operations capable of handling the estimated call volumes stated in Appendix C.

1.1.1.5. The ESD shall phase call agent staffing to correspond to I3P contracts phase-in for the customer go-live date (Feb. 1, 2011 or as updated).

1.1.2. Provide License Management.

1.1.2.1. The ESD shall be responsible for managing all licensing associated with providing Help Desk Tier 1 Services.

1.1.3. Provide Availability, Access and Information Protection.

1.1.3.1. The ESD shall administer account access to restricted areas of the ESD/ESRS ITSM system supporting the Tier 1 Help Desk.

1.1.3.2. The ESD shall be responsible for complying with all IT Security policies and procedures to ensure information protection.

1.1.3.3. The ESD shall size the system to be capable of supporting 48,000 users for Phase 1. The system shall be designed to be scalable for increased requirements in phases 2 and 3.

1.1.3.4. The ESD shall provide full Tier 1 functionality required for I3P contractor integration and updating of knowledge articles and I3P content by the project "internal" go-live date (Oct. 1, 2010 or as updated).

1.2. Provide a Single Point of Contact (SPOC) for initial reporting of Incidents related to I3P services.

1.2.1. Provide the capability for Incident reporting to be collected via calls, e-mail, web form, or self-entry via the Tier 0 web site. Customers may submit supplemental information via fax.

1.2.1.1. The ESD shall establish a voice and call management system capable of supporting 48,000 users.

1.2.1.2. The ESD shall provide a toll-free capability for NASA customers to call for Incident reporting (1-877-NSSC123).

1.2.1.3. The ESD shall provide telephonic incoming/out-going voice communications to meet Performance Requirements, as stated in Appendix B of this document.

1.2.1.4. The ESD shall utilize the Agency's email system (NOMAD or its successor) for communicating with customers related to Incident reporting and statusing.

1.2.1.5. The ESD shall provide for web interface for Incident reporting/status that aligns with Agency web and desktop browser standards identified in NASA Standard 2804M and Section 508.

1.2.1.6. The ESD shall be compliant with all applicable NASA standards (including NSSC policies and procedures).

1.2.1.7. The ESD shall support defined SLIs for customer communications response criteria and be knowledgeable of the communications tools and systems used (currently defined in Appendix B of this document.)

1.2.1.8. The ESD shall establish and operate an IT Service Management system (Remedy) capable of logging, tracking, routing, statusing, closing, and maintain historical data for all Incidents reported.

1.2.1.9. The ESD staff shall be trained and possess the general knowledge to use the Remedy Knowledge Base for Incident resolution and routing based on the information provided by the customer.

1.2.2. Route Incidents to the I3P contractor according to information provided by the customer and initiate resolution processes as per defined Information Technology Infrastructure Library (ITIL) v3 processes. For those Incidents reported that are not part of the I3P services, provide phone number of the appropriate organizations to the customer.

1.2.2.1. The ESD shall establish Incident processing scripts, desk guides, work-around procedures, and knowledge articles to be used for resolving and routing Incidents.

1.2.2.2. The ESD shall log all customer and Incident information into the ITSM (Remedy) and provide that information to the appropriate I3P contractor for Tier 2 Incident resolution using a defined Interface Definition Specification (IDS). Current version is 2.0, dated Oct. 7, 2009.

1.2.2.3. The ESD shall process calls based on available knowledge materials and time constraints and route to the appropriate Tier 2 contractor when not resolved at Tier 1.

1.2.2.4. The ESD shall process Incidents based on the Severity levels assigned.

1.2.2.5. The ESD shall escalate, when not resolvable at Tier 1, within an average of 15 minutes of receiving the Incident report (Ten minutes maximum for Severity 1 Incidents).

1.2.2.6. The ESD shall establish an interface to the I3P contractors using the ESD/ESRS IDS to define the format, elements, and interface specifications.

1.2.2.7. Interfaces defined include Remedy-supported interfaces of Web Services, use of "Government-Provided", and Remedy Distributed Server Option (DSO).

1.2.2.8. The ESD shall assist customers who have incorrectly contacted the ESD by providing the contact information for the correct Help Desk and/or non-I3P Contractor based on the information provided by the customer.

1.3. Process Incidents/Problems per defined Service Level Indicators (SLIs).

1.3.1. Log all Incidents into the Incident Management System (IMS).

1.3.1.1. The ESD shall utilize ITIL v3 processes for Incident Management. Remedy "out-of-the-box" ITIL is preferred, but in cases where customization is required the ESD shall adhere to NASA-defined ITIL processes when applicable.

1.3.1.2. The ESD shall ensure that all Incidents are fully logged, date/time stamped with required fields (Configuration Items [CIs]) as provided by the customer. This data shall be entered into the Incident Management System at the time of the call/Incident report.

1.3.1.3. The ESD shall allocate suitable Incident categorization coding so the Incident type is properly recorded and routed.

1.3.1.4. The ESD shall process Incidents within the performance requirements as stated in Appendix B of this document.

1.3.2. Attempt First Call Resolution (FCR) for those Incidents where Tier 1 agents have access to applications for password resets, have access to support user ID recovery, or have access to defined application errors where resolution steps are defined.

1.3.2.1. The ESD shall maintain the Remedy Knowledge Base, scripts, workarounds, and desk guides need to support first call resolution of Incidents.

1.3.2.2. The ESD will comply with FCR as defined in Appendix B – Performance Requirements.

1.3.2.3. The ESD shall attempt FCR based on customer information provided and available access to applications required for password resets, user ID recovery, and application error corrective procedures.

1.3.2.4. The ESD shall attempt FCR using an average 15 minute period for initial Incident reporting (ten minutes maximum for Severity 1 Incidents).

1.3.2.5. The ESD shall establish a Tier 0 User Self-Service capability for obtaining information related to Incidents, status of I3P services, access to the Knowledge Base for FAQs, common IT information requests related to software use, application access and password resets, I3P Incident/Problem status tracking information, I3P Knowledge Base access, I3P password reset services (if system access is provided), and self-entry of incidents.

1.3.2.6. The ESD shall maintain an ITSM system (Remedy) capable of tracking and monitoring FCR statistics and performance.

1.3.3. Escalate Incidents as per defined business rules for Severity Levels 1-3.

1.3.3.1. The ESD shall assign the appropriate prioritization/Severity level as per documented escalation procedures.

1.3.3.2. The ESD shall escalate Incidents to the appropriate I3P contractor(s) based on customer information received and Tier 1 Help Desk knowledge data available.

1.3.3.3. The ESD shall route Incidents to the I3P contractor(s) based on Severity with the time constraints as stated in Appendix B of this document.

1.3.3.4. The ESD shall escalate I3P "return to service" requests as defined within I3P escalation procedures.

1.3.4. Track Incidents/Problems transferred to Tier 2.

1.3.4.1. The ESD shall define interfaces, elements, and update frequency needed from I3P contracts for tracking Incidents assigned to Tier 2 contractors. These definitions will be found in the ESD/ESRS Interface Definition Specification v2.0 (or as updated).

1.3.4.2. The ESD shall establish and operate the ITSM (Remedy) system used to collect and report Incident status.

1.3.4.3. The ESD shall provide an automated Self-Service reporting capability for authorized users to retrieve Incident/Problem status for all Incidents processed.

1.3.4.4. The ESD will participate in cross-functional teams that may be activated for Problem resolution coordination. The ESD will act as a participant in a similar role as the other I3P contractors. The ESD will not lead the Problem resolution team.

1.3.5. Close all Incidents after notification of resolution from Tier 2 provider of resolution.

1.3.5.1. The ESD shall be responsible for closing all Incidents / Problems.

1.3.5.2. The ESD shall survey customers upon Incident closure using the ESD-defined sampling rate.

1.3.5.3. The ESD shall provide automated Self-Service reporting for all closed Incidents.

1.4. Establish and maintain an Incident Management System (IMS).

1.4.1. Procure and maintain the required IT systems and software to support the core IMS (Remedy 7.5).

1.4.1.1. The ESD shall utilize Remedy 7.5 ITSM suite for the Incident Management System.

1.4.1.2. The ESD shall provide systems management for the Atrium Configuration Management Database (CMDB) – part of Remedy 7.5 – for the Data Repository / CMDB.
1.4.1.3. The ESD shall provide systems management for the Remedy Knowledge Management database.
1.4.1.4. The ESD system configuration shall incorporate robust redundancy and architecture to support SLIs stated in Appendix B – Performance Requirements.
1.4.1.5. The ESD operations procedures shall be documented and located in the NSSC document repository.
1.4.1.6. The ESD shall implement an IMS system compliant with ITIL v3 processes.
1.4.1.7. The ESD shall have a Business Continuity Plan.
1.4.1.8. The ESD shall utilize network, computing, storage and business continuity services from NICS and the NEDC at the direction of the NSSC.
1.4.1.9. The ESD shall manage the transition of all new infrastructure components into an operational state for the ESD/ESRS.
1.4.1.10. The ESD shall monitor messages for abnormal terminations, notify and record the Incident to the respective NASA application owners and provide logs to vendors to support Incident resolution for the ESD/ESRS applications and systems.
1.4.1.11. The ESD shall provide Account Management functions for all ESD applications to include Account Set-Up, Password Reset and Account Deletion.
1.4.1.12. The ESD shall collect and provide all performance metrics for ESD and ESRS support systems in accordance with Service Level Performance Measures.
1.4.1.13. The ESD shall prepare, implement, and maintain a Capacity Management plan in accordance with the NSSC's Capacity Management Process.
1.4.1.14. The ESD shall work on an on-going basis to accurately project the capacity available for upcoming releases.
1.4.1.15. The ESD shall utilize historical reference points related to capacity and work through-put to ensure accurate capacity projections.
1.4.1.16. The ESD shall ensure NSSC licensing compliance for Remedy.
1.4.1.17. The ESD shall monitor and manage adequate storage requirements for all users.

1.4.2. Ensure that data is backed up and protected per NPR 2810.1, Security of Information Technology; NPD 1440.6H, NASA Records Management; and NPR 1382.1, NASA Privacy Procedural Requirements.
1.4.2.1. The ESD shall utilize a configuration management process to manage all applications and system changes to ESD and ESRS support systems.
1.4.2.2. The ESD shall provide security planning in accordance with NASA policies.
1.4.2.3. The ESD shall be incorporated into the NSSC IT Security Plan and Risk Assessment process.
1.4.2.4. The ESD shall ensure that all critical software updates and patches to all software components for each application are applied. Critical software

updates include, but are not limited to, security updates, updates required to maintain vendor support and updates required for operational stability.

1.4.2.5. The ESD shall provide a comprehensive governance, risk and compliance program, leveraging existing NSSC management tools, to address evolving security guidance, proactive response to internal / external assessments, routine security planning, and vulnerability assessments.

1.4.2.6. The ESD shall manage, as part of the security program, routine assessments of security to include privacy assessments, vulnerability assessments, social engineering assessments, segregation of duties assessments, security plan assessments, business resiliency tabletops, business resiliency exercises, and routine reviews of lifecycle improvements to ensure system confidentiality, integrity and availability.

1.4.2.7. The ESD shall provide a business resiliency capability that includes Business Continuity and cyber incident response planning.

1.4.2.8. The ESD shall support internal / external audits and assessments for both routine and ad hoc reviews through the use of automated queries.

1.4.2.9. The ESD shall prepare, implement, publish, and maintain a Release Management plan in accordance with NASA's Release and Deployment Management Process. The ESD's Release Management plan shall define release schedules and procedures, rules of engagement for the usage of systems across the system landscapes and an NSSC-approved back-out plan.

1.4.3. Identify, procure, and deploy licenses for customer/I3P contractor usage and government support teams.

1.4.3.1. The ESD shall provide 10 mid-tier Remedy Licenses to each of the five I3P contractors. These licenses shall enable the contractors to access the Remedy Dashboards & Analytics for metrics analysis, order reconciliation data, etc.

1.4.3.2. The ESD shall manage and maintain all licenses required for ESD/ESRS operations hosted at the NSSC.

1.4.3.3. The ESD shall provide and maintain licenses for 48,000 NASA customers capable of providing Incident reporting, service request submission, and statusing.

1.5. Establish interfaces for escalating Incidents to I3P and non-I3P contractors.

1.5.1. Define the data exchange requirements for Tier 2 contractors for Incident assignment and Incident/Problem status reporting (interface build-out is the responsibility of the I3P contractors).

1.5.1.1. The ESD shall provide an electronic interface between the I3P contractors and the ESD/ESRS Remedy system to support the transferring of Incidents, Incident status, Problem status, service requests, service request fulfillment information, and service requests status.

1.5.1.2. The ESD shall provide the definition and frequency of information exchanged in this interface as defined in the ESD/ESRS Interface Definition Specification (IDS).

1.5.1.3. Provide support to the I3P contractors in the development and testing of ESD/ESRS integration requirements.

1.5.2. Coordinate with the Security Operations Center (SOC) for ESD/ESRS-related IT Security Incidents.

1.5.2.1. The ESD shall complete an Incident ticket for all IT security issues reported to the ESD.

1.5.2.2. The ESD shall escalate all IT Security Incidents to the SOC as per defined IT Security escalation procedures.

1.5.2.3. The ESD shall close all Incident tickets after successful acknowledgement of the SOC escalation.

1.5.3. Support interfaces to non-I3P entities/contracts.

1.5.3.1. The ESD shall provide an electronic interface between the NASA Enterprise Architecture Repository (NEAR) and ESD/ESRS Remedy system to support the transferring of I3P services and attributes for entry into the ESD/ESRS User Catalog. The definition and frequency of information exchanged in this interface is defined in the ESD/ESRS IDS (current version 2.0).

1.5.3.2. The ESD shall assist customers who have incorrectly contacted the ESD by providing the contact information for the correct Help Desk and/or non-I3P Contractor based on the information provided by the customer. These Incidents will be closed upon correct contact information being provided to the customer.

1.5.3.3. The ESD shall provide an electronic interface between the NASA identity system and the Remedy ITSM system. This interface will be used to validate authorized users accessing the ESD via calls. The definition and frequency of information exchanged in this interface is defined in the ESD/ESRS IDS.

1.5.3.4. The ESD shall provide an electronic interface between the NASA identity system and the Web-based ESD and ESRS systems to authenticate users accessing ESD and ESRS for service request and Incident processing. The definition and frequency of information exchanged in this interface is defined in the ESD/ESRS IDS.

1.5.3.5. The ESD shall provide automated Self-Service reports to the Project Executives (PEs), the SIM, I3P Contractors, and I3P Service Offices (Project Offices) using Remedy's Dynamic Reporting and Analysis tools.

2. Provide a Tier 0 Self-Service Web Site for I3P Services.

2.1. Provide Systems Support Management.

2.1.1. Provide Operations Management and Staffing.

2.1.1.1. The ESD shall provide a staff that is trained and knowledgeable on web technologies and Remedy 7.5 Knowledge Management capabilities for developing an I3P Tier 0 Self-Service web site.

2.1.1.2. The ESD shall provide for systems management to support all servers, communications, and software needed to support 24x7 availability as per the SLIs stated in Appendix B – Performance Requirements.

2.1.2. Provide License Management.

2.1.2.1. The ESD shall be responsible for managing all licensing associated with providing Tier 0 services.

2.1.3. Provide Availability, Access and Information Protection.

2.1.3.1. The ESD shall administer account access to restricted areas of the ESD/ESRS Tier 0 Web site.

2.1.3.2. The ESD shall be responsible for complying with all IT Security policies and procedures to ensure information protection.

2.1.3.3. The ESD shall size the system capable of support 48,000 users for Phase 1. The system shall be designed to be scalable for increased requirements in phases 2 and 3.

2.1.3.4. The ESD shall ensure that access to knowledge articles is provided as per 24x7 availability SLIs as indicated in Appendix B – Performance Requirements.

2.1.3.5. The ESD shall provide full Tier 0 functionality required for I3P contractor integration and updating of knowledge articles and I3P content by the project "internal" go-live date (Oct. 1, 2010 or as updated).

2.2. Establish and maintain a Tier 0 I3P Self-Service Capability.

2.2.1. Implement and maintain a Knowledge Base for user inquiries and help concerning commonly asked / requested services (to be provided by I3P contractors, and by the SP based on experience).

2.2.1.1. The ESD shall establish and maintain a knowledge management system which is integrated into the Tier 1 Help Desk operations.

2.2.1.2. The ESD shall provide the capability for customers to access the knowledge management system via a web based interface.

2.2.1.3. The ESD shall provide for a robust search capability for knowledge articles.

2.2.1.4. The ESD shall provide for FAQ Self-Service capability to Remedy and Tier 0 content management repositories.

2.2.1.5. The ESD shall provide for customer/user authentication before selected data is provided using the NASA identity system infrastructure.

2.2.1.6. The ESD shall provide an interface and processes enabling I3P contractors to provide I3P knowledge articles, infrastructure systems status, and I3P-related notifications for ESD posting to the Tier 0 Web site.

2.2.1.7. The ESD shall provide the capability for I3P contractors to post relevant information to the Tier 0 web site using a content management process.

2.2.1.8. The ESD shall implement continuous improvement process for Knowledge Base and web services for ESD/ESRS.

2.2.1.9. The ESD shall be responsible for utilizing I3P contractor-provided scripts and Knowledge Base articles to address issues and support customers for repetitive Problems identified at the Tier 2 level.

2.2.1.10. The ESD shall identify, develop, and implement opportunities and initiatives based on lessons learned in Tier 0 operations.

2.2.2. Establish the Tier 0 Self-Service Capability by ESD/ESRS Internal Go-Live and provide for 24x7 operations and availability beginning Feb. 1, 2011 (or as updated).

2.2.2.1. The ESD shall be responsible for providing systems management for existing NSSC Web Services infrastructure for the Tier 0 Self-Service Web Service.

2.2.2.2. The ESD shall provide for end-user self-entry of I3P incidents and requests via the Tier 0 web site.

2.2.2.3. The ESD shall provide for Section 508 compliance.

2.2.3. Provide for automated and current Incident / Problem statusing using Tier 0 web services technology that leverages IMS capabilities and knowledge articles from existing Knowledge Bases as provided by the I3P contractors, ODIN and NISC.

2.2.3.1. The ESD shall implement web services capable of providing customers with a Self-Service interface in order to obtain information related to Incidents, status of I3P services, access to the Knowledge Base for FAQs, common IT information requests related to software use, application access, and password resets, I3P Incident/Problem status tracking information, I3P Knowledge Base access, and I3P password reset services (if system access is provided) using the Tier 0 web site.

2.2.3.2. The ESD shall provide for Incident reporting via a web interface using the Tier 0 Web Site.

2.2.3.3. The ESD shall leverage an integrated system to support the Tier 1, Tier 0, and Service Request functionality.

2.2.3.4. The ESD shall implement automated information reporting and access to the fullest extent using COTS "out-of-the-box" capabilities.

2.2.3.5. The ESD shall implement Web interfaces that are compatible and aligned with NASA desktop standard software as defined in NASA Standard 2804.

2.2.3.6. The ESD shall implement a content management system to supplement the Remedy ITSM for I3P contractor updates to the I3P Tier 0 web site.

2.2.3.7. The ESD shall provide network and IT infrastructure access to authorized NASA customers and I3P contractor ensuring that appropriate IT security safeguards are implemented.

2.2.3.8. The ESD shall provide a web interface to access automated Self-Service reporting and dashboards from the Remedy ITSM system using Remedy and COTS reporting solutions.

3. Provide ESD/ ESRS Systems Integration Management (SIM) Services.

3.1. Collect and report SLI-based performance metrics.

3.1.1. Establish a data repository to collect Incident status changes.

3.1.1.1. The ESD shall identify and maintain ESD/ESRS-specific Configuration Item (CI) information details in accordance with NASA's Service Asset and Configuration Management (SACM) Process.
3.1.1.2. The ESD shall maintain changes to ESD/ESRS-specific CI information detail in accordance with NASA's Change Management Process.
3.1.1.3. The ESD shall report all ESD/ESRS-specific CI inconsistencies.
3.1.1.4. The ESD shall make available I3P Configuration Items associated with each Incident, Problem or Service Request processed by Tier 2 contractors.

3.1.2. Develop reports providing metrics for ESD / ESRS Service-Level Indicator (SLI) compliance, performance and quality of service.
3.1.2.1. The ESD shall design, develop, and maintain ESD/ESRS performance measures as described by the Data Requirement Documents (DRDs) listed in the Performance Work Statement (PWS).
3.1.2.2. The ESD shall support the development of business rules used to address ad hoc query requests. Estimated number of ad hoc reports is one per quarter.
3.1.2.3. The ESD shall allow changes to reports via the defined Change Control Process.
3.1.2.4. The ESD shall provide a web-based executive summary performance dashboard with information including SLIs, Key Performance Indicators (KPIs), and Client Satisfaction.
3.1.2.5. The ESD shall ensure all performance measures are available via Tier 0.

3.1.3. Conduct, issue and process surveys as per a defined statistical sampling for Incident/Problem resolution and closures related to I3P service status/availability. In most cases the expected sampling base is 90% confidence interval and 5% margin of error.
3.1.3.1. As part of Incident closeout, the ESD shall develop the systems and processes needed to survey customer satisfaction with the ESD/ESRS and I3P Services. Only I3P data resident in the ITSM system shall be included in the I3P portion of the survey.
3.1.3.2. Customer response selections shall be developed to the survey questions and the expected survey completion rate.
3.1.3.3. The ESD shall develop and implement an NSSC-approved customer satisfaction scoring mechanism.
3.1.3.4. The ESD shall review procedures for conducting end-user satisfaction surveys.
3.1.3.5. The ESD shall ensure that CI information related to Incident close-out is updated in the Configuration Management Database (CMDB) as provided by the I3P contractor within the Incident.

3.2. Manage communications for I3P services.
3.2.1. Provide planned/unplanned outage reports and status to customers.
3.2.1.1. The ESD shall establish the capability to disseminate notices of planned/unplanned outages.

3.2.1.2. The ESD shall be responsible for providing systems management for the enterprise notifications system. The NSSC will investigate hosting the existing Activity and Outage Posting and Notification System (AOPNS) at the NSSC vs. implementing a new communications and notifications system.

3.2.2. Provide customer notifications of upgrades to I3P services.

3.2.2.1. The ESD shall disseminate messages to I3P users through: E-mail., Tier 0 Web Services, and AOPNS or suitable alternative.

3.2.2.2. The ESD shall use distribution lists for the various communities of Authorized Users across the Agency as provided and updated by those communities.

3.2.2.3. The ESD shall develop and maintain a system for management of applicable messages, including performance of communications, Quality Assurance and dissemination based on the message priority.

3.2.2.4. The ESD shall provide access to NASA's hosted message distribution database (AOPNS or suitable alternative).

3.2.2.5. The ESD shall report abnormal spikes of Incidents or Problems based on information obtained from authorized User contact, new Incidents and call volume spikes.

3.2.2.6. The ESD shall broadcast known I3P service disruption information as provided by the I3P contractors

3.2.2.7. The ESD shall provide an electronic communication method for I3P customers to be delivered information to users at least three times before a major scheduled event occurs.

3.2.2.8. The timing of the communications may vary, but unless otherwise directed, these communications will occur once seventy-two (72) hours prior to the event, once twenty-four (24) hours prior to the event and once eight (8) hours prior to the event.

3.2.3. Ensure timely updates to the Tier 0 web service for I3P service status/availability.

3.2.3.1. The ESD shall disseminate via the Tier 0 Web site information about the I3P Service environment including schedules of changes to the I3P services, new I3P services, I3P service training materials, I3P user guides and knowledge article search capability.

3.2.3.2. Updates shall be posted when they are received from the I3P contractors, after being reviewed by ESD management if necessary.

3.3. Provide for Continuity of Operations.

3.3.1. Work with NASA to establish and maintain an IT architecture to support sustained operations.

3.3.1.1. The ESD will be responsible for providing systems management for the CISCO IP Contact Center (IPCC) backup system, Centergy.

3.3.2. Develop contingency plans (including updating the Business Continuity Plan [BCP]) addressing SLI performance risks.

3.3.2.1. The ESD shall provide for Business Continuity for ESD and ESRS services, including modify the existing NSSC Business Continuity Plan to include the ESD/ESRS.

4. Provide an Enterprise Service Request System.

4.1. Provide Systems Support Management.

4.1.1. Provide Operations Management and Staffing.

4.1.1.1. The ESD shall provide a staff that is trained and knowledgeable on the Remedy 7.5 products necessary to configure and operate the ESRS.

4.1.1.2. The ESD will be responsible for providing systems management for the Remedy 7.5 ITSM Suite for the Service Request System.

4.1.1.3. The ESD shall operate the ESRS in accordance with established NASA processes and procedures. A current list of applicable references is included in Section 1.5 of this Requirements Document, as well as in Requirement 5.3.2.

4.1.1.4. The ESD shall manage and administer account access and/or role assignments for all users utilizing the ESD/ESRS ITSM tool.

4.1.1.5. The ESD shall be responsible for maintaining documentation and current configuration of the ITSM system.

4.1.2. Provide License Management.

4.1.2.1. The ESD shall be responsible for procuring and managing licenses for the ITSM tool.

4.1.2.2. The ESD shall be responsible for procuring and managing licenses for a customer base of 48,000 users enabling the capability to ordering and statusing I3P service requests.

4.1.3. Provide Availability and Access.

4.1.3.1. The ESD shall ensure that the ESRS is available to customers for ordering as per defined SLIs in Appendix B – Performance Requirements.

4.1.3.2. The ESD shall ensure that the system and communications interfaces are sized and architected to support a customer base is 48,000 FTEs/WYEs comprising both NASA employees and NASA contractors.

4.1.3.3. The ESRS shall utilize the NASA e-Auth infrastructure to control and manage user access to ESRS functionality.

4.2. Provide Customer-Focused Support.

4.2.1. The ESD shall ensure that the ESRS is available to customers for ordering as per defined SLIs (see Appendix B).

4.2.1.1. Manage availability of the ESRS.

4.2.1.2. Track and report SLIs.

4.2.1.3. Create action plans as required for lagging performance.

4.2.1.4. Create and manage customer satisfaction surveys as stated in SIM Support requirements.

4.2.2. The ESD shall provide Tier 0/1 customer support for accessing the ESRS with respect to answering FAQs, inquiries for order status, application errors, issues with access, etc.
- 4.2.2.1. Manage availability of the Tier 0/1 support.
- 4.2.2.2. Track and report SLIs.
- 4.2.2.3. Create action plans as required for lagging performance.
- 4.2.2.4. Create and manage customer satisfaction surveys as stated in SIM Support requirements.

4.2.3. The ESD shall manage and administer account access and/or role assignments for all users utilizing the ESD/ESRS ITSM tool.
- 4.2.3.1. Establish access requirements.
- 4.2.3.2. Implement access.
- 4.2.3.3. Manage and update as needed.
- 4.2.3.4. Manage license requirements.

4.2.4. The ESD shall develop and maintain a web-based interface allowing customers to place service requests.
- 4.2.4.1. Explore options for the web-based interface (Remedy, other COTS, etc.).
- 4.2.4.2. Select a product.
- 4.2.4.3. Install and maintain.
- 4.2.4.4. Monitor performance.
- 4.2.4.5. Provide Tier 0/1/2 support.

4.3. Manage the User Catalog.

4.3.1. The NASA Enterprise Architecture Repository shall provide the ESRS with available I3P services.
- 4.3.1.1. The ESD shall interface with the NEAR to obtain authorized I3P services to be presented to the user via the ESRS.
- 4.3.1.2. The ESRS – NEAR interface shall be defined in the NEAR Interface Definition Specification (IDS). Current version is 2.0.
- 4.3.1.3. The ESRS shall adhere to applicable NASA policies for determining the inclusion, modification, and/or deletion/deactivation of enterprise services.

4.3.2. The ESRS shall support I3P service bundling.
- 4.3.2.1. The ESD shall be responsible for creating bundled I3P services for entry into the ESRS. Bundled services are those services that are ordered as a group that span multiple I3P contracts. An estimated 50 bundled services will be supported from the 400 NEAR-defined I3P services.
- 4.3.2.2. The ESD shall construct the service fulfillment workflows that enable coordinated ordering and request fulfillment across multiple I3P contracts.
- 4.3.2.3. The ESRS shall support multiple funding WBSes identified per service (bundled or single) ordered.

4.3.3. Provide Services Display and Availability to Users.

4.3.3.1. The ESD shall provide users with a web-based order entry capability using the Tier 0 web site capability.
4.3.3.2. The ESRS ordering interface shall be intuitive and comply with NASA's 508 and usability standards.
4.3.3.3. The ESRS shall provide the user with a reference order ID for later status checking/reporting.
4.3.3.4. The ESRS shall provide the capability for users to track and manage requests through the ESD Tier 0 Self-Service customer interface.

4.4. Process Service Requests.

4.4.1. Configure for Ordering.
4.4.1.1. The ESRS shall configure the ITSM tool to create partitioned views for the I3P contractors to support daily operations, deliver partitioned and customizable views for both end users and support analysts for I3P contractors, and provide for views that support roll-up allowing information to be queried across all partitions.
4.4.1.2. The ESRS shall provide partitioned views into ESRS entries based on the user role and/or Center/organization as defined within the NASA identity system.

4.4.2. Manage Workflow.
4.4.2.1. The ESRS workflow system shall provide for executing a workflow process for a defined service request.
4.4.2.2. The ESRS workflow system must be capable of branching to external processes and applications as a step in the workflow process.
4.4.2.3. The ESRS workflow system must provide for statusing step in the workflow process and providing that information to a user status web site.
4.4.2.4. The ESRS workflow system must be executed within the NASA desktop standards environment defined in NASA Standard 2804.
4.4.2.5. The ESRS workflow system shall provide for approval / rejection processing of a service request being processed.
4.4.2.6. The ESRS workflow shall be capable of delivering a service request to an I3P contractor interface as defined in the ESD/ESRS Interface Definition Specification.

4.4.3. Provide for Fulfillment.
4.4.3.1. The ESRS system shall be scalable for providing for service request fulfillment processing in the event that the I3P contractor wants to utilize the ESD/ESRS ITSM system for Tier 2 fulfillment processing.
4.4.3.2. The ESRS system shall interface with I3P contractor systems for Tier 2 fulfillment based on the ESD/ESRS Interface Definition Specification.
4.4.3.3. The ESRS shall provide an interface to the CMDB for Configuration Items (CIs) related to service request fulfillment responses to the I3P contractor.

4.4.4. Provide for Statusing.
4.4.4.1. The ESRS shall provide for statusing of a service request at each defined step in the workflow process. Those steps where a branch to an external process is

invoked will not be capable of providing status to sub-steps within the external process.

4.4.4.2. The ESRS shall provide statusing using the Tier 0 web site for customer inquiries related to service request processing.

4.4.4.3. The ESRS shall provide an interface to I3P contractors for service request related to their contracts using their assigned Remedy license allocation (10 per I3P contract).

4.5. Provide for Monthly Reconciliation Processing.

4.5.1. Provide Self-Service Reporting.

4.5.1.1. The ESRS shall provide an interface to I3P Service Offices (Project Offices) for invoice reconciliation processing related to their contracts using their purchased Remedy mid-Tier licenses and the Tier 0 web site.

4.6. Provide ESRS Support.

4.6.1. Provide Tier 0 Self-Service / FAQs / Help.

4.6.1.1. The NSSC shall provide Tier 0/1 customer support for accessing the ESRS with respect to answering FAQs, inquiries for order status, application errors, and issues with access.

4.6.2. Provide Tier 2 Support.

4.6.2.1. The NSSC shall ensure that all Federal/NASA IT security requirements are met with respect to operating the ESRS.

4.6.2.2. The NSSC shall update the CMDB as needed for services ordered.

4.6.3. Provide routing of Enterprise Service Requests for Tier 2 fulfillment.

4.6.3.1. The NSSC shall maintain and document interfaces between Remedy 7.5 and NEAR, I3P contractors (Incidents, Problems and fulfillment) and NASA systems for Remedy foundation data to support the workflow for requested services.

5. Comply with Cross-Functional and Integration Requirements.

5.1. Comply with NASA ITIL v3-Aligned Policies and Procedures.

5.1.1. Manage I3P Incidents.

5.1.1.1. Follow the NASA Incident Management Process as described in the CF-PWS.

5.1.1.2. Comply with SLIs and KPIs for Incident Management as defined in Appendix B of this document.

5.1.2. Manage I3P Change Requests.

5.1.2.1. Follow the NASA Change Management Process as described in the CF-PWS.

5.1.2.2. Comply with SLIs and KPIs for Change Management as defined in Appendix B of this document. (Change Requests will be processed as Service Requests

in the ESD/ESRS system; thus the SLIs and KPIs for Request Fulfillment will be followed.)

5.1.3. Provide Request Fulfillment for I3P Services.
5.1.3.1. Follow the NASA Request Fulfillment Process as described in the CF-PWS.
5.1.3.2. Comply with SLIs and KPIs for Request Fulfillment as defined in Appendix B of this document.

5.1.4. Provide Problem Management.
5.1.4.1. Follow the NASA Problem Management Process as described in the CF-PWS.
5.1.4.2. Comply with SLIs and KPIs for Problem Management as defined in Appendix B of this document.

5.1.5. Provide Service Level Management for the ESD/ESRS.
5.1.5.1. Follow the NASA Service Level Management Process as described in the CF-PWS.
5.1.5.2. Comply with SLIs and KPIs for Service Level Management as defined in Appendix B of this document.

5.2. Collaborate with I3P Contractors.

5.2.1. Provide Transition Support. Compliance to be documented at the Operational Readiness Review (ORR).
5.2.1.1. Define, develop, and document the interactions and interfaces between the I3P Contractors and the ESD/ESRS.
5.2.1.2. Document escalation procedures and contact lists.

5.3. Comply with NASA Standards and Directives.

5.3.1. Perform Records Management. Compliance to be documented at project life cycle reviews.
5.3.1.1. Comply with NPD 1440.6H, *NASA Records Management.*
5.3.1.2. Comply with NPD 1441.1D, *Records Retention Schedules.*
5.3.1.3. Comply with NPR 1600.1, *NASA Security Program Procedural Requirements.*

5.3.2. Comply with NASA IT standards and directives. Compliance to be documented at project life cycle reviews.
5.3.2.1. Comply with NPD 2800.1B, *Managing Information Technology.*
5.3.2.2. Comply with NPR 2800.1B, *Managing Information Technology.*
5.3.2.3. Comply with NPD 2830.1, *NASA Enterprise Architecture.*
5.3.2.4. Comply with NPR 2830.1, *Enterprise Architecture Procedures.*
5.3.2.5. Comply with NPR 7150.2, *Software Engineering Requirements.*
5.3.2.6. Comply with NASA Standard 2804M, *Minimum Interoperability Software Suite.*
5.3.2.7. Comply with NASA Standard 2805, *Minimum Hardware Configurations*

5.4. Provide IT Security.

5.4.1. Comply with Federal and NASA IT Security policies and procedures.

5.4.1.1. Comply with NPR 2810.1A, *Security of Information Technology*. Success will be tracked through compliance with SLIs and KPIs identified in Appendix B of this document.

5.4.1.2. Comply with NIST 800-30, *Risk Management Guide for Information Technology Systems*. Identified risks will be documented in Active Risk Manager (ARM). Successful management of risks through the life of the project is required.

5.4.1.3. Comply with FIPS PUB 199, *Standards for Security Categorization of Federal Information and Information Systems.* Specific requirement is to produce the Information Systems Security Classification (ISSC).

5.5. Perform Project Management.

5.5.1. Follow NPR 7120.7, *NASA Information Technology and Institutional Infrastructure Program and Project Management Requirements*.

5.5.1.1. Satisfy Technical Review Entrance and Success Criteria.

5.5.1.2. Produce Required Gate Products at Key Decision Points (KDPs) sufficient to pass the KDP.

5.6. Perform Change Management.

5.6.1. Follow OCIO guidance for I3P Change Management activities.

5.6.1.1. Adhere to the OCIO Strategic Communication Plan. The final version of the plan will contain metrics to assess performance in this area.

APPENDIX A - Project Authority, Governance Structure, Management Structure and Implementation Approach

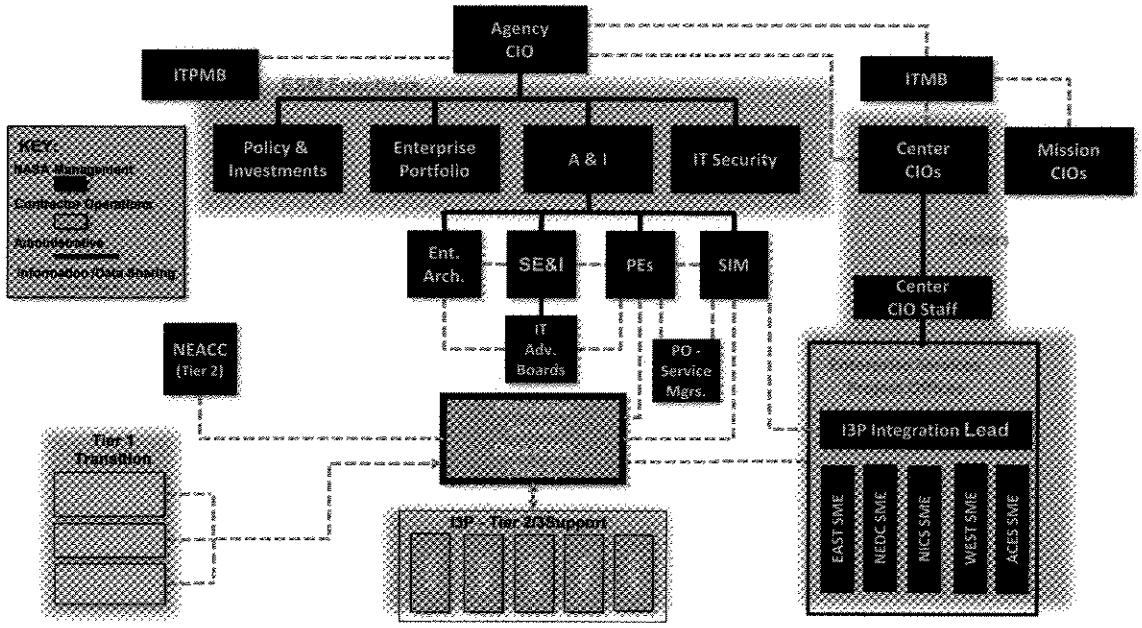
[Excerpted from ESD / ESRS Project Plan, v1.9.]

The OCIO exercises authority through both the Project Executive (PE) and the SIM office. The NSSC exercises authority over the ESD/ESRS through its Chief Information Officer (CIO), Project Manager (PM), Contracting Officer (CO), and the Contracting Officer's Technical Representative (COTR) for the project. Reporting and coordination flow from the NSSC via its Project Manager and CIO to both the PE and the SIM, and then to the OCIO.

The Project Manager is responsible for coordinating the project locally with NSSC management, the CO and COTR, and the service provider, and agency-wide with the OCIO, NASA Centers, and other stakeholders. The PE resides in the Architecture & Infrastructure Division, is the service owner, and is responsible for budgeting. The SIM is responsible for managing the OCIO ITIL processes, SLA compliance monitoring and conflict resolution between the I3P contracts in regards to service levels. The Agency level governance specified in the I3P Program Commitment Agreement is incorporated by reference.

Decision authority is held jointly by the NSSC and OCIO. The Contracting Officer has final decision authority on contracting issues. Issues regarding scope must be worked between the Project Manager and the Project Executive. Cross-functional issues with the I3P contracts will be worked by the OCIO and the SIM.

OCIO Organizational Authority Structure



1

Governance is provided by the IT Project Management Board (ITPMB) during the transition phase, and by the IT Management Board (ITMB) during the operations phase.

Stakeholders (Project Design Teams, Center CIOs, etc.) associated with the five I3P contracts provided input during formulation, and will continue to provide feedback during the transition and operations phases. Once the I3P contracts have been awarded, coordination efforts will begin with the five vendors chosen in order to ensure seamless delivery of service across the Agency. The SIM will act as a coordinating office for cross-functional issues involving the ESD/ESRS and I3P contractors.

APPENDIX B – ESD/ESRS Performance Requirements (SLIs and KPIs)

[From PWS TECHNICAL EXHIBIT 2 – PERFORMANCE REQUIREMENTS]

B.1 ESD/ESRS Service Level Indicators (SLIs)

B.1.1 ESD/ESRS Critical Service Level Matrix

The following matrix contains the ESD/ESRS Critical Service Levels and Metrics.

	Description	Measurement Window	Year 2 and Beyond Service Level	Year 1 Service Level
1.1. ESD - I3P TIER 1 Service				
1.1.1	Average Speed to Answer (ASA)	Monthly	80.00%	80.00%
1.1.2	Customer Satisfaction	Monthly	90.00%	85.00%
1.1.3	Call Abandon Rate	Monthly	7.00%	7.00%
1.1.4	First Call Resolution	Monthly	95.00%	90.00%
1.1.5	Availability of ESD Applications and Systems (Critical and Non-Critical)	Monthly	99.95%	97.00%
1.2. ESD - I3P TIER 0 Service				
1.2.1	Customer Satisfaction	Monthly	85.00%	75.00%
1.2.2	Distribution Lists	Monthly	99.00%	97.00%
1.2.3	Availability of ESRS Applications and Systems (Critical and Non-Critical)	Monthly	99.95%	97.00%

B.1.2 Critical Service Levels Definitions

This section sets forth qualitative descriptions of the Critical Service Levels. The numerical service levels associated with these Critical Service Levels are set forth in the ESD/ESRS Service Level Matrix above.

Critical Service Level	
1.1.1 Average Speed to Answer (ASA)	
Service Level Description	The SP will design and provide an ESD TIER 1 service sufficient to sustain the NSSC's targeted Average Speed to Answer (ASA) response times.
Definitions	See Calculation
Hours of Operation	7 x 24
Service Level Target	Refer to the Critical Service Level Matrix, Section 1.1.1.
Calculation	Average Speed to Answer (ASA) shall be calculated as the number of telephone calls answered within sixty (60) seconds from the time a User places a telephone Call into the Service Desk Automated Call Distributor (ACD) and makes a selection to speak to a Service Desk representative until the time the telephone Call is answered by a Service Desk representative, in each calendar month, divided by the total number of telephone Calls answered in the same calendar month, multiplied by 100 with the result expressed as a percentage to two (2) decimal places.
Measurement	SP will utilize NASA's Remedy system and Centergy / Cisco IPCC tools to measure and report actual Average Speed to Answer.
Requirements and Dependencies	None.
Exceptions and Exclusions	Call Volume exceeding 110% of projected workload

Critical Service Level	
1.1.2 Customer Satisfaction with TIER 1 Service	
Service Level Description	The SP will design, and provide an ESD TIER 1 service sufficient to sustain the NSSC's targeted Customer Satisfaction performance levels.
Definitions	Customer Satisfaction shall be based upon a statistical sample of the customers. The sample size will be based on a 90% confidence interval and a 5% margin of error. The customer satisfaction will be measured upon closure of an Incident/Problem. Survey responses will be on a five (5) point scale:

	• 1 - very dissatisfied • 2 - dissatisfied • 3 - neither satisfied nor dissatisfied • 4 - satisfied • 5 - very satisfied. Customer Satisfaction Surveys will be electronically distributed to the originator of the Incident during the Incident closure step, and shall include a means to distinguish ESD calls from ESRS calls.
Hours of Operation	7 x 24
Service Level Target	Refer to the Critical Service Level Matrix, Section 1.1.1.
Calculation	Customer Satisfaction performance shall be calculated by summing the survey ratings for each category and dividing the sum by the total number of responses received in the month, with the result expressed as a percentage to two (2) decimal places.
Measurement	The SP will use NASA's Inquisite tool to measure and report actual Customer Satisfaction for the services applicable to a lean TIER 1 Service desk.
Requirements and Dependencies	None
Exceptions and Exclusions	None
Critical Service Level	
1.1.3 Call Abandon Rate	
Service Level Description	The SP will design and provide an ESD TIER 1 service sufficient to sustain the NSSC's targeted Call Abandon Rate performance levels.
Definitions	See Calculation, and Exceptions and Exclusions
Hours of Operation	7 x 24
Service Level Target	Refer to the Critical Service Level Matrix, Section 1.1.1.
Calculation	Call Abandon Rate shall be calculated by dividing the number of calls that are terminated prior to answer by a Service Desk representative or Automatic Call Distributor (ACD) unit by the total number of calls placed to the Service Desk within a month, with the result expressed as a percentage to two (2) decimal places. Calls in which the User elects to leave a voice mail message initially instead of waiting for a Service Desk representative shall be excluded from the measurement.

	Also, calls that are routed to automated messages will be excluded from the measurement.
Measurement	The SP will utilize NASA's Remedy and Centergy / Cisco IPCC tools to measure and report actual Call Abandon Rates.
Requirements and Dependencies	None
Exceptions and Exclusions	Calls terminated prior to the caller making a selection from the automated menu will be excluded from the calculation. Call Volume exceeding 110% of projected workload
Critical Service Level	
1.1.4 First Call Resolution	
Service Level Description	The SP will design and provide an ESD TIER 1 service sufficient to sustain the NSSC's targeted First Call Resolution performance levels.
Definitions	See Calculation
Hours of Operation	7 x 24
Service Level Target	Refer to the Critical Service Level Matrix, Section 1.1.1.
Calculation	Percentage of incoming calls resolved without the use of a callback, or without having the caller call back the helpdesk to finish resolving the case. FCR as it pertains to the Tier 1 Help Desk of the ESD is the Tier 1 calls resolved without the use of a callback, or without having the caller call back the helpdesk to finish resolving the case divided by the total number of Tier 1 calls received. "Tier 1 calls received" for the purpose of computing FCR are calls that were or should have been resolved at Tier 1. This definition applies to 1.1.4.
Measurement	The SP will utilize NASA's Remedy tool to measure and report actual First Call Resolution.
Critical Service Level	
1.2.1 Customer Satisfaction with TIER 0 Service	
Service Level Description	The SP will design and maintain an ESD TIER 0 service sufficient to sustain the NSSC's targeted Customer Satisfaction performance levels.
Definitions	Customer Satisfaction shall be measured at each instance of a web page viewing at the TIER 0 web service (FAQ, knowledge base, etc). Satisfaction shall be measured based on customer

	response to the question, "Was this information helpful?", with the possible responses being Yes / No / I Don't Know.
Hours of Operation	7 x 24
Service Level Target	Refer to the Critical Service Level Matrix, Section 1.1.1.
Calculation	Customer Satisfaction performance shall be calculated by summing the survey ratings and dividing the sum by the total number of responses received in the month, with the result expressed as a percentage to two (2) decimal places.
Measurement	Calculate Customer Satisfaction measurements as calculated above, and shall include a means to distinguish the ESD from the ESRS.
Requirements and Dependencies	None
Exceptions and Exclusions	Pages viewed without a response by the customer will be reported separately but not included in the customer satisfaction calculations. "Entry pages" will not be surveyed. For ESRS, customers dissatisfied with the services provided by the I3P contractors.
Critical Service Level	
1.2.2 Distribution Lists	
Service Level Description	The SP will design and maintain an ESD TIER 0 service sufficient to sustain the Authorized User distribution lists for use when distributing notifications and communications of outages, service interruptions, etc.
Definitions	The SP shall maintain appropriate distribution lists for the various I3P communities of Authorized Users.
Hours of Operation	7 x 24
Service Level Target	Refer to the Critical Service Level Matrix, Section 1.1.1.
Calculation	Number of changes made to the distribution lists divided by number of updates received within 30 days from the I3P Contractors, with the result expressed as a percentage to two (2) decimal places.
Measurement	Number of changes counted by the appropriate system(s)
Requirements and Dependencies	None
Exceptions and Exclusions	Updates not received from the NSSC or I3P Contractors will not be counted in the calculation. Updates exceeding 110% of workload.
Critical Service Level	

1.2.3 Availability of ESD/ESRS Applications	
Service Level Description	The SP will design and provide an ESD Application Support service for Critical ESD Applications sufficient to sustain the NSSC's targeted availability performance levels.
Definitions	"Availability" occurs when applications are ready for customer use and are accessible by all customers
Hours of Operation	7 x 24
Service Level Target	Refer to the Critical Service Level Matrix, Section 1.1.1.
Calculation	Availability of monitored Critical ESD Applications in each calendar month. This calculation will commence upon completion and review of availability-monitoring modifications to monitoring tool.
Measurement	Availability for all monitored Critical ESD Applications in each calendar month. This calculation will commence upon completion and review of availability-monitoring modifications to monitoring tool.
Requirements and Dependencies	None
Exceptions and Exclusions	Planned outages and outages due to factors beyond the SP control, i.e., power, network

B.2 Key Performance Indicators (KPIs)

B.2.1 Service Level Matrix

The following matrix contains the ESD/ESRS KPIs. Note the KPIs are numbered beginning with 2.1 in order to distinguish them from the Critical Service Levels, which begin with 1.1.

	Description	Measurement Window	Year 2 and Beyond Service Level	Year 1 Service Level
2.1 ESD TIER 1 Help Desk Service				
2.1.1	Time to Escalate / Close - Severity 1 Incidents / Problems	Monthly	98.00%	96.00%
2.1.2	Time to Escalate / Close - Severity 2 Incidents / Problems	Monthly	89.00%	85.00%
2.1.3	Time to Escalate / Close - Severity 3 Incidents / Problems	Monthly	89.00%	85.00%
2.1.5	Right First-Time Allocation of Incidents to Level 2	Monthly	90.00%	85.00%
2.2 ESD TIER 0 Self Service Web Services				
2.2.1	Web Service Kept Current	Monthly	98.00%	95.00%
2.2.2	Communications to Authorized Users Delivered Promptly	Monthly	99.00%	98.00%
2.2.3	No PII Incidents	Monthly	100%	100.00%

B.2.2 Key Performance Indicators (KPIs) Definitions

This section sets forth qualitative descriptions of the KPIs. The numerical performance levels associated with these KPIs are set forth in the ESD/ESRS KPI Matrix above.

Key Performance Indicator (KPI)	
2.1.1 Time to Escalate / Close Severity 1 Incidents / Problems	
Service Level Description	The SP will design and provide an ESD TIER 1 service sufficient to sustain the NSSC's targeted Time to Escalate / Close Severity 1 Incidents / Problems.
Definitions	Refer to Calculation
Hours of Operation	7 x 24
Service Level Target	Refer to the KPI Service Level Matrix, Section 1.2.1.
Calculation	Time to Escalate/Close shall be calculated as the number of Severity Level 1 Incidents/Problems escalated/closed within ten (10) minutes, divided by the total number of Severity Level 1 problems reported and/or assigned to the Service Desk during the month, with the result expressed as a percentage to two (2) decimal places. The proper escalation will be dependent on the information provided by the customer.
Measurement	Time to Escalate Severity 1 Incidents / Problems shall be measured in minutes as the elapsed time from when the End User notifies the Service Desk of the Severity 1 Problem to the time the Service Desk electronically notifies the TIER 2 contractor of the problem or notifies the End User that the problem has been resolved..
Requirements and Dependencies	ESD Performance requirements are as follows: • 10 minute maximum dispatch to contractor • 10 minute maximum call & wrap (after contractor has completed call – includes automated closure notice to end user) • Status check at 75th percentile (for Severity 1, calculated as (0.75*2.0 hours = 1.5 hours) • Status check at 95th percentile (for Severity 1, calculated as (0.95*2.0 hours or 1.9 hours) Incident closure may require the end user(s) to be available at the time of incident completion. In the event that user contact is required to complete incident closure and the user is unavailable, ESD will follow the Notification Process in accordance with the Incident Management and Problem Management Process and Policy.

	All Severity Level 1 problems are to be tracked.
Exceptions and Exclusions	None
Key Performance Indicator (KPI)	
2.1.2 Time to Escalate / Close Severity 2 Incidents / Problems	
Service Level Description	The SP will design and provide an ESD TIER 1 service sufficient to sustain the NSSC's targeted Time to Escalate / Close Severity 2 Incidents / Problems.
Definitions	Refer to Calculation
Hours of Operation	7 x 24
Service Level Target	Refer to the KPI Service Level Matrix, Section 1.2.1.
Calculation	Time to Escalate / Close shall be calculated as the number of Severity Level 2 Incidents/Problems escalated / closed within an average of fifteen (15) minutes, divided by the total number of Severity Level 2 problems reported and / or assigned to the Service Desk during the month, with the result expressed as a percentage to two (2) decimal places. The proper escalation will be dependent on the information provided by the customer.
Measurement	Time to Escalate Severity 2 Incidents / Problems shall be measured in minutes as the elapsed time from when the End User notifies the Service Desk of the Severity 2 Problem to the time the Service Desk electronically notifies the TIER 2 contractor of the problem or notifies the End User that the problem has been resolved.
Requirements and Dependencies	ESD Performance requirements are as follows: • 15 minute average dispatch to contractor • 15 minute average call & wrap (after contractor has completed call – includes automated closure notice to end user) • Status check at 75th percentile (for Severity 2, calculated as (0.75*6.0 hours = 4.50 hours) • Status check at 95th percentile (for Severity 2, calculated as (0.95*6.0 hours = 5.70 hours) All Severity Level 2 problems are to be tracked.
Exceptions and Exclusions	None
Key Performance Indicator (KPI)	
2.1.3 Time to Escalate / Close Severity 3 Incidents / Problems	

Service Level Description	The SP will design and provide an ESD TIER 1 service sufficient to sustain the NSSC's targeted Time to Escalate / Close Severity 3 Incidents / Problems.
Definitions	Refer to Calculation
Hours of Operation	7 x 24
Service Level Target	Refer to the KPI Service Level Matrix, Section 1.2.1.
Calculation	Time to Escalate / Close shall be calculated as the number of Severity Level 3 Incidents / Problems escalated / closed within fifteen (15) minutes, divided by the total number of Severity Level 3 problems reported and / or assigned to the Service Desk during the month, with the result expressed as a percentage to two (2) decimal places The proper escalation will be dependent on the information provided by the customer.
Measurement	Provider Time to Escalate / Close Severity 3 Incidents / Problems shall be measured in minutes as the elapsed time from when the End User notifies the Service Desk of the Severity 3 problem to the time the Service Desk electronically notifies the TIER 2 contract of the problem or notifies the End User that the problem has been resolved.
Requirements and Dependencies	ESD Performance requirements are as follows: • 15 minute average dispatch to contractor • 15 minute average call & wrap (after contractor has completed call – includes automated closure notice to end user) • Status check at 75th percentile (for Severity 3, calculated as (0.75*3 days = 2.25 days) • Status check at 95th percentile (for Severity 3, calculated as (0.95*3 days = 2.85 days) All Severity Level 3 problems are to be tracked.
Exceptions and Exclusions	None
Key Performance Indicator (KPI)	
2.1.5 Right First-Time Allocation of Incidents to Level 2	
Service Level Description	The SP will design and provide an ESD TIER 1 service sufficient to sustain the established targets for Right First-Time Allocation of Incidents to Level 2.
Definitions	**"Successful Allocation"** shall mean the initial escalation

	by the Service Desk to Level 2 Contractor is the same Level 2 Contractor that closes the Incident or performs work necessary to resolve the problem, including coordination with other I3P contractors and TIER 3 **"Failed Allocation"** shall mean the Incident was incorrectly escalated by the Service Desk. resulting in a different Level 2 Contractor working the Incident than the initial Level 2 Contractor to which the Incident was originally allocated by the Service Desk. A "Failed Allocation" shall include the escalation of an Incident to the I3P when the root cause is known. The proper escalation will be dependent on the information provided by the customer.
Hours of Operation	7 x 24
Service Level Target	Refer to the KPI Service Level Matrix, Section 1.2.1.
Calculation	**Right First Time Allocation of Incidents to Level 2** performance shall be calculated as the total number of "Successful Allocations", divided by the sum of (i) the total number of "Successful Allocations" and (ii) the total number of "Failed Allocations" in a month, with the results expressed as a percentage to two (2) decimal places. For the avoidance of doubt, only Incidents closed in a given month will be included in the performance calculation, even if the Incident was escalated during the prior month. The Incident does not need to be escalated and closed in the same month in order to be included in the performance calculation.
Measurement	The targeted percentage of Incidents allocated to Level 2 shall be successfully allocated the first time as calculated above.
Requirements and Dependencies	None
Exceptions and Exclusions	Exclusions: This measurement will not include the escalation of ESD/ESRS TIER 2 incidents.
Key Performance Indicator (KPI)	
2.2.1 Web Service Kept Current	
Service Level Description	The SP will design and provide an ESD TIER 0 service

	sufficient to sustain the established targets for keeping the web service current.
Definitions	The SP shall provide Authorized User self-help, including the posting of I3P Known Error information and "how to" information relating to supported services via the TIER 0 web service. The SP shall disseminate information about the I3P service environment including posting schedules of changes to the I3P services, new I3P services, I3P service training materials, I3P Authorized User guides, answers to frequently asked questions (FAQs) as provided by the I3P contractors and the SIM. The SP shall update the web service and associated knowledge bases with information derived from Incident and Problem Management activities relevant to customer feedback and trend analysis, and with information provided by TIER 2 contractors.
Hours of Operation	7 x 24
Service Level Target	Refer to the KPI Service Level Matrix, Section 1.2.1.
Calculation	For I3P contract updates, the calculation is number of updates posted to the TIER 0 web service divided by the number of updates received from the I3P Contractors in 30 days. For Incident and Problem Management activities, the calculation is number of updates posted to the TIER 0 web service divided by the number of Incident and Problem Management activities in 30 days, with the result expressed as a percentage to two (2) decimal places.
Measurement	Refer to the KPI Service Level Matrix, Section 1.2.1.
Requirements and Dependencies	None
Exceptions and Exclusions	Workload volume exceeding 110% of estimate
Key Performance Indicator (KPI)	
2.2.2 Communications to Authorized Users Delivered Promptly	
Service Level Description	The SP will design and provide an ESD service sufficient to sustain the established targets for delivering communications regarding outages, service disruptions, etc. to Authorized Users promptly.

Definitions	The SP shall broadcast known I3P service disruption information. The SP shall provide an electronic communication to Authorized Users to be delivered to Authorized Users three times before a scheduled event occurs. The timing of the communications may vary, but unless otherwise specified, will occur as defined in Section 3.2.4.1.
Hours of Operation	7 x 24
Service Level Target	Refer to the KPI Service Level Matrix, Section 1.2.1.
Calculation	1. Total number of communications delivered to Authorized Users divided by the sum of the number of communications generated by the SP, received from I3P Contractors and the NSSC. 2. Total number of communications delivered on time divided by total number of communications delivered, with the result expressed as a percentage to two (2) decimal places.
Measurement	Refer to the KPI Service Level Matrix, Section 1.2.1.
Requirements and Dependencies	Proper categorization of notification by I3P contractor.
Exceptions and Exclusions	Communications not received from the I3P Contractors in a timely manner will not be counted. Workload volume exceeding 110% of estimate.
Key Performance Indicator (KPI)	
2.2.3 No PII Incidents	
Service Level Description	The SP will design and provide an ESD service sufficient to sustain the established targets for ensuring no Personally Identifiable Information (PII) is released.
Definitions	The SP shall adhere to all NASA standards regarding IT security and protection of personnel privacy information.
Hours of Operation	7 x 24
Service Level Target	Refer to the KPI Service Level Matrix, Section 1.2.1.
Calculation	Number of incidents where PII was posted, released, distributed or compromised by the SP, its subcontractors, or staff, with the result expressed as a percentage to two (2) decimal places.
Measurement	Refer to the KPI Service Level Matrix, Section 1.2.1.

Requirements and Dependencies	None
Exceptions and Exclusions	PII information posted by individuals outside the SP's control.

APPENDIX C – Estimated Call Volumes

[From Addendum 1 to the ESD/ESRS PWS dated 2/22/10]

Estimated call volume for FY11 through FY16:

	FY11	FY12	FY13	FY14	FY15	FY16
Total Workforce (N2 Based)	8805	40816	39310	38054	34679	34679
Estimated HD Call Volume	73230	297956	286960	277792	253158	253158

Month-by-month estimated call volume for FY11 (operations begin transitioning 2/1/11):

	FY11							
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Call Volume	6142	6142	6142	6366	6366	11836	11836	18401

APPENDIX D - Acronyms

A&I – Architecture & Infrastructure
ACD – Architectural Control Document
ACD – Automated Call Distributor
ACES – Agency Consolidated End-User Services
AOPNS – Activity and Outage Posting and Notification System
ARC – Ames Research Center
ASA – Average Speed to Answer
CF-PWS – Cross Functional Performance Work Statement
CI – Configuration Item
CIO – Chief Information Officer
CMDB – Configuration Management Database
CONOPS – Concept of Operations
COOP – Continuity of Operations Plan
CSI – Continuous Service Improvement
DFRC – Dryden Flight Research Center
DRD – Data Requirement Document
DSO – Distributed Server Option
EA – Enterprise Architecture
EAST - Enterprise Applications Services Technologies
ESD – Enterprise Service Desk
ESM – Enterprise Service Management
ESRS – Enterprise Service Request System
FAD – Formulation Acquisition Document
FAQs – Frequently Asked Questions
GFSC – Goddard Space Flight Center
GISS – Goddard Institute Space Libary
GRC – Glenn Research Center
HQ - Headquarters
I3P – IT Infrastructure Integration Program
ICAM – Identity Credentialing and Management
IDA – Interface Definition Agreement
IDS – Interface Definition Specification
IMS – Incident Management System
ITIL – Information Technology Infrastructure Library
IPCC – IP Contact Center (Cisco)
ITMB – IT Management Board
ITSM – IT Service Management
IV&V – Independent Verification and Validation
IVR – Intelligent Voice Response
JPL – Jet Propulsion Laboratory
JSC – Johnson Space Center
KPI – Key Performance Indicator
KSC – Kennedy Space Center
LaRC – Langley Research Center
MFR – Mission Focus Review
MSFC – Marshall Space Flight Center
NASA – National Aeronautics and Space Administration
NEACC - NASA Enterprise Applications Competency Center

NEAR – NASA Enterprise Architecture Repository
NEDC – NASA Enterprise Data Center
NICS – NASA Integrated Communications Services
NISC – NASA Information Support Center
NISN – NASA Integrated Services Network
NODIS – NASA Online Directives Information System
NOMAD- NASA Operational Messaging & Directory Service
NPD – NASA Policy Directive
NPR – NASA Procedural Requirements
NSSC – NASA Shared Services Center
OCIO – Office of the Chief Information Officer
ODIN – Outsourcing Desktop Initiative for NASA
OLA – Operating Level Agreement
OSC2 – OCIO Strategic Communications Committee
PDAs – Personal Digital Assistants
PII – Personally Identifiable Information
PWS – Performance Work Statement
RCA – Root Cause Analysis
SACM - Service Asset and Configuration Management
SIM – Service Integration Management
SLA – Service Level Agreement
SLI – Service Level Indicator
SLM – Strategic Level Management
SMC – Strategic Management Council
SMO – Strategic Management Office
SOC – Security Operations Center
SP – Service Provider
SPOC – Single Point of Contact
SSC – Stennis Space Center
UC – Underpinning Contract
WEST – Web Enterprise Services Technologies
WFF – Wallops Flight Facility
WSC – White Sands Complex
WSTF – White Sands Test Facility

APPENDIX E - Definitions

Activity	A set of actions designed to achieve a particular result. Activities are usually defined as part of processes or plans, and are documented in procedures.
Asset	Any resource or capability. Assets of a Contractor include anything that could contribute to the delivery of a service. Assets can be one of the following types: Management, Organization, Process, Knowledge, People, Information, Applications, Infrastructure, and Financial Capital.
Asset Management	Asset Management is the Process responsible for tracking and reporting the value and ownership of financial Assets throughout their Lifecycle. Asset Management is part of an overall Service Asset and Configuration Management Process.
Availability	The ability of a Configuration Item or IT Service to perform its agreed function when required.
Availability Management	The Process responsible for defining, analyzing, planning, measuring and improving all aspects of the availability of IT Services. Availability Management is responsible for ensuring that all IT infrastructure, Processes, tools, roles etc are appropriate for the agreed Service Level Targets for availability.
Capacity	The maximum throughput that a Configuration Item or IT Service can deliver while meeting agreed Service Level Targets. For some types of CI, Capacity may be the size or volume, for example a disk drive.
Capacity Management	The Process responsible for ensuring that the capacity of IT Services and the IT infrastructure is able to deliver agreed Service Level Targets in a cost effective and timely manner. Capacity Management considers all resources required to deliver the IT Service and plans for short, medium and long term business requirements.
Change	The addition, modification or removal of anything that could have an effect on IT Services. The scope of any Change should include all IT Services, Configuration Items, Processes, documentation etc.
Change Management	The Process responsible for controlling the Lifecycle of all changes. The primary objective of Change Management is to enable beneficial changes to be made with minimum disruption to IT Services.
Component	A general term used to mean one part of something more complex. For example, a computer system may be a Component of an IT Service; an Application may be a Component of a Release unit. Components that are managed as part of an IT Service should be Configuration Items and managed as part of the enterprise Configuration Management Process.
Configuration Item (CI)	Any component that needs to be managed in order to deliver an IT Service. Information about each CI is recorded in a configuration record within the Configuration Management System and is maintained throughout its Lifecycle by Configuration Management. CIs are under the control of Change Management. CIs typically include IT Services, hardware, software, buildings, people and formal documentation such as Process documentation and SLAs.
Configuration Management	The Process responsible for maintaining information about Configuration Items required to deliver an IT Service, including their relationships. This information is managed throughout the Lifecycle of the CI. Configuration Management is part of an overall Service Asset and Configuration Management Process.
Continuous Service Improvement	A stage in the Lifecycle of an IT Service. Continuous Service Improvement is responsible for managing improvements to IT Service Management Processes and IT Services.
Contractor Management	The Process responsible for ensuring that all Contracts with Contractors support the needs of the business, and that all Contractors meet their contractual commitments.
Customer	Someone who buys goods or services. The Customer of an IT Service Contractor is the person or group that defines and agrees the Service Level Targets.

Deployment	The Activity responsible for movement of new or changed hardware, software, documentation, Process, etc., to the live environment. Deployment is part of the Release and Deployment Management Process.
Enterprise Service Desk	The Single Point of Contact (SPOC) between Users and Contractors responsible for receiving, logging, escalating, monitoring and closing tickets associated with managing Incidents and Service Requests. Also responsible for communicating with Users regarding the status of Incidents and Service Requests and on-going measurement of customer satisfaction.
Government	The National Aeronautics and Space Administration (NASA) enterprise along with the collective business units making up the IT Infrastructure and Service delivery environment defined to be in-scope for purposes of the IT Infrastructure Integration Program (I^3P) Acquisition.
Incident	An unplanned interruption to an IT Service or a reduction in the quality of an IT Service. Failure of a Configuration Item that has not yet impacted service is also an Incident. For example failure of one disk from a mirror set.
Incident Management	The Process responsible for managing the Lifecycle of all Incidents. The primary objective of Incident Management is to return the IT Service to Users as quickly as possible.
Information Security Management	The Process that ensures the confidentiality, integrity and availability of an organization's assets, information, data and IT Services. Information Security Management usually forms part of an organizational approach to security management which has a wider scope than the IT Service Contractor, and includes handling of paper, building access, phone calls etc., for the entire Organization.
IT Infrastructure	All of the hardware, software, networks, facilities, etc., that are required to develop, test, deliver, monitor, control or support IT Services. The term IT Infrastructure includes all of the information technology but not the associated people, Processes and documentation in support of IT Services.
IT Service	A service provided to one or more Customers by an IT Service Contractor. An IT Service is based on the use of information technology and supports the Customer's business Processes. An IT Service is made up from a combination of people, Processes, and technology and should be defined in a Service Level Agreement.
IT Service Contractor	A Service Provider/Supplier responsible for supplying goods or services that are required to deliver IT Services. These may include commodity hardware and software vendors, network and telecom suppliers and IT outsourcing service providers.
IT Service Continuity Management	The Process responsible for managing risks that could seriously impact IT Services. ITSCM ensures that the IT Service Contractor can always provide minimum agreed Service Levels, by reducing the risk to an acceptable level and planning for the recovery of IT Services. ITSCM should be designed to support business continuity management.
IT Service Management (ITSM)	The implementation and management of quality IT Services that meet the needs of the business. IT Service Management is performed by Contractors in concert with the client enterprise through an appropriate mix of people, process and information technology.
Knowledge Management	The Process responsible for gathering, analyzing, storing and sharing knowledge and information within an organization. The primary purpose of Knowledge Management is to improve efficiency by reducing the need to rediscover knowledge.
Known Error	A Problem that has a documented root cause and a workaround. Known Errors are created and managed throughout their Lifecycle by Problem Management. Known Errors may be identified by Users, Customers or IT Service Contractors.
Lifecycle	The various stages in the life of an IT Service, Configuration Item, Incident, Problem, Change etc. The Lifecycle defines the categories for status and the status transitions that are permitted. For example: • The Lifecycle of an application includes requirements, design, build, deploy, operate, and optimize. • The expanded Incident Lifecycle includes detect, respond, diagnose, repair, recover, restore. • The lifecycle of a server may include: ordered, received, in test, live, disposed etc.

Operational Level Agreement (OLA)	An agreement between an enterprise IT organization and another part of the same organization. An OLA supports the enterprise IT organization's delivery of IT Services to Customers through IT Service Contractors. The OLA defines the goods and services to be provided and the responsibilities of both parties. Performance expectations are documented in SLAs and other Underpinning Contracts.
Performance Work Statement (PWS)	A document containing all requirements for a product purchase, or a new or changed IT Service.
Problem	A cause of one or more Incidents. The cause is not usually known at the time a Problem record is created. The Problem Management Process is responsible for further investigation of the Problem.
Problem Management	The Process responsible for managing the Lifecycle of all Problems. The primary objectives of Problem Management are to prevent Incidents from happening and to minimize the impact of Incidents that cannot be prevented.
Process	A structured set of Activities designed to accomplish a specific objective. A Process takes one or more defined inputs and turns them into defined outputs. A Process may include any of the roles, responsibilities, tools and management controls required to reliably deliver the outputs. A Process may define policies, standards, guidelines, Activities, and work instructions if they are needed.
Recovery Point Objective (RPO)	The maximum amount of data that may be lost when an IT Service is restored after an interruption. Recovery Point Objective is expressed as a length of time before the failure.
Recovery Time Objective (RTO)	The maximum time allowed for recovery of an IT Service following an interruption. Recovery Time Objective is expressed as a length of time from the failure to restoration of the IT Service.
Release	A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, tested and deployed as a single entity.
Release and Deployment Management	The Process responsible for both Release Management and Deployment.
Release Management	The Process responsible for planning, scheduling and controlling the movement of releases to test and live environments. The primary objective of Release Management is to ensure that the integrity of the live environment is protected and that the correct components are released. Release Management is part of the Release and Deployment Management Process.
Request For Change (RFC)	A formal proposal for a Change to be made. An RFC includes details of the proposed Change, and may be recorded on paper or electronically.
Request Fulfillment	The Process responsible for managing the Lifecycle of all Service Requests.
Service Asset & Configuration Management	The Process responsible for both Configuration Management and Asset Management.
Service Level	Measured and reported achievement against one or more Service Level Targets.
Service Level Agreement (SLA)	An agreement between a Contractor and a Customer. The Service Level Agreement describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Contractor and Customer. A single SLA may cover multiple IT Services or multiple Customers
Service Level Management	The Process responsible for negotiating Service Level Agreements, and ensuring that these are met. SLM is responsible for ensuring that all IT Service Management Processes, Operational Level Agreements, and Underpinning Contracts, are appropriate for the agreed Service Level Targets. SLM monitors and reports on Service Levels, and holds regular Customer reviews.
Service Level Targets	Service Level Targets are performance commitments documented in a Service Level Agreement. Service Level Targets are based on Service Level Requirements agreed to with the business and ensure IT Service design is aligned with results.

Service Request	A request from a user for information, advice, a standard Change or for access to an IT Service. For example - to reset a password, or to provide standard IT Services for a new user. Service Requests are usually handled by a Service Desk and do not require an RFC (Request For Change) to be submitted.
Single Point of Contact (SPOC)	A designated single, consistent way to communicate with an individual, business entity or enterprise.
Tier 0 (Self Help)	A level of support provided to users via a web-based portal. This Self-Help level of support assists Users resolve lower level of difficulty Incidents and/or Service Requests. The Incidents and/or Service Requests handled at this level of support typically can be resolved through the direct effort of Users, rather than through the effort of resources associated with the Enterprise Service Desk.
Tier 1 Support	The first level in a hierarchy of support groups involved in the resolution of Incidents. Each level contains a more specialized skill, knowledge, time or resource in support of their responsibilities. Tier 1 is typically defined as the Enterprise Service Desk (ESD).
Tier 2 Support	The second level in a hierarchy of support groups involved in the resolution of Incidents and investigation of Problems. Each level contains a more specialized skill, knowledge, time or resource in support of their responsibilities. Tier 2 would be the next level of dispatch/escalation from Tier 1 (ESD) support.
Tier 3 Support	The third level in a hierarchy of support groups involved in the resolution of Incidents and investigation of Problems. Each level contains a more specialized skill, knowledge, time or resource in support of their responsibilities. Tier 3 would be the next level of dispatch/escalation from Tier 2 support.
Underpinning Contract	A Contract between an IT Service Contractor and a third party. The third party provides goods or services that support the delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.
Users	A person who uses the IT Service on a day-to-day basis. Users are distinct from Customers, as some Customers do not use the IT Service directly.